Series 410, 411, 412 and 420 Hydraulic Vehicle Barrier

Installation Manual

Please read this manual before using this product for the first time! Act in accordance with the manual and keep it in a safe place for later use or for the following owner.
FOREWORD

This manual provides information on the installation of the barrier unit. A separate manual is provide for operation and maintenance. Although every effort has been made to ensure that the information contained in this manual is correct at the time of issue, no responsibility is accepted for any loss or damage arising from incorrect information.

This manual forms no part whatsoever of any contract or agreement between Heras and others. In no circumstances will Heras be responsible or liable for any costs, damage or injury whatsoever arising from the use of this Manual.

Should the equipment be tampered with and/or any non-approved addons fitted to the equipment then any warranty will be considered void.

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1 SAFETY

1.1 EXPLANATION OF WARNINGS

Warnings are used to highlight information safety critical information and to ensure the safe installation of this equipment. Be sure to understand what each warning symbol indicates before attempting installation.

- A situation that poses a severe and imminent danger to personnel
- A situation that poses a severe and imminent danger to personnel from electrical equipment or a power supply
- A situation that poses a danger to personnel from a hazardous substance
- A general situation that poses a risk to personnel and or damage to equipment
- A situation where additional information is required

1.2 PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE) must be used where necessary. Heras recommend the following PPE as minimum safety requirements.

- Safety glasses
- Hard hat
- Safety gloves
- Safety boots
- Ear defenders
- High visibility vest
1.3 GENERAL SAFETY

Only persons trained in accordance with health and safety regulations should perform the installation. The safety precautions that follow are not specific to the equipment under test. Follow all local Health and Safety regulations and Safe Working Practices. When performing a procedure the installation be sure to:

- Report any equipment defects that pose a danger to the safety, health and welfare.
- Wear all applicable Personal Protective Equipment (PPE).
- Avoid causing injury to you or other persons.
- Assess that all cranes and lifting equipment are serviceable and calibrated, and have the correct Safe Working Load (SWL) for the task.
- Use only approved tools, recommended consumable materials.
- Isolate all applicable power sources (fuel/electrical/hydraulic/pneumatic), and ensure that applicable WARNING signs are visible where necessary.
- Clear all work areas of unneeded tools, equipment and materials.
- Dispose of all unwanted consumable materials in accordance with local health and safety and environmental regulations.

1.4 LIFTING EQUIPMENT

Before making use of any lifting equipment, be sure to:

- Examine the equipment for any signs of damage.
- Make sure the lifting equipment is suitable for the load.
- Make sure the slings are correctly placed and loading diameter is sufficient.
- Mark the weight of the item to be lifted.
- Make sure the SWL of lifting equipment is not exceeded.
- Make sure the shackles can be double locked, e.g. nut and split pin if necessary.
2 EQUIPMENT DETAILS

Description: Series 412 – 420 Hydraulic Vehicle Barrier

Controllers: 1 No Integrated Programmable Controller with provision for connection of remote push button and card access control.


Electrical Supply: Standard Models required a Single Phase 230VAC 50 Hz Supply rated @ 10 Amps.

Electrical Supply: Non-standard Three Phase Models (available at an extra cost) require Three Phase & Neutral 400VAC 50 Hz Supply rated @ 6 Amps.

Cabinet Dimensions: 400 x 300 x 5mm

Cabinet Overall Height: 1150mm

Beam Section: 3” Circular Section

Beam Centre Height: 1000 mm (approximate)

Operating Time: 8-15 Seconds

Standard Colour: BS 04E53 Poppy Red – Other RAL/BS colours available on request.
3 INSTALLATION

3.1 FOUNDATION DETAILS

Important note- the following details are typical only. Please refer to site-specific drawings, which were issued with your order.

Barrier fixings M16 x 135 Hilti Type HAS bolts

End support fixings M10x120 Hilti type HAS bolt.

Ensure concrete foundations are suitable for secure fixing of these bolts.

Bases must be perfectly level in themselves, to prevent the need for excessive shimming of equipment.

End support post if supplied is telescopic.
3.2 BARRIER INSTALLATION

- Before installation commences thoroughly check all base sizes and positions in accordance with the issued drawings.

- Check the quantity, sizes and positions of all installed mains, control and loop cables within the ducts.

- With beam removed, position barrier as shown on the drawings and check the supplied beam length is equal or more than, that which is required.

- For guidance only and if an end support post is being used: -
  
  - If Trief kerbs are installed, the beam should be at least 1124mm longer than the kerb-to-kerb width.
  
  - If standard kerbs are installed, the beam should be at least 604mm longer than the kerb-to-kerb width.
  
  - If there are no kerbs the beam length should be at least 364mm longer than the foundation-to-foundation width.

- Fix the barrier in position using 1 M10 Hilti type bolt in the central fixing position. Ensuring that the cables are pulled through the rectangular 100 x 250 cut out in the barrier base plate.

  - Connect the mains supply into the isolator.

  - Connect the control and loop cables (if installed.)

  - Check the barrier raises and lowers correctly.

  - Lower the barrier to horizontal. The mains must now be isolated using the isolator switch within the barrier cabinet.

  - Attach the barrier beam.

  - Check the alignment of the beam across the entrance, ensuring that it lies central within the end support post (if supplied).

  - Fit the remaining 5 x M16 fixing down bolts, ensuring that the barrier base is shimmed level before the bolts are fully tightened.

  - Commission the barrier.
3.3 LID REMOVAL

In order to access the mechanical drive shaft and bearing assemblies, and to adjust the limit switches, it will be necessary to remove the lid of the barrier. This is a simple operation but should still be approached with care at all times.

In order to remove the lid the door must first be opened using the keys supplied with the barrier.

The barrier must now be immediately isolated from the mains electricity supply by turning off the supply at the isolator as indicated in the drawing.

Underneath the top plate located centrally is a wing nut this must be removed from the location rod, and carefully stored for later.

The lid can now be removed carefully from the barrier cabinet in an upward direction.

Important note- Ensure that the lid and all fixings are safely stored so that damage or loss is avoided. In severe weather ensure that the lid is removed for very short periods of time or that the barrier is adequately protected.

With the lid removed extreme care should be taken if the barrier is operated with the mains supply energised. Multiple trapping hazards exist. Any adjustments should only be carried out by a suitably trained and qualified engineer.
3.4 BEAM ATTACHMENT AND REMOVAL

The beam fixing arrangement is shown in Fig 4 (below)

If the beam is being attached during installation, check the length of beam and shorten if required. Carefully remove any burrs and fit the supplied black plastic end cap into the cut end of the beam.

Fig 4- Drawing showing beam fixings

3.5 ELECTRICAL OPERATING SYSTEM

The electrical control panel is fitted inside the barrier cabinet within an IP rated enclosure.

⚠️ All control electrical connections are pre-wired at our factory, only mains cable and external control cables require connecting on site.

The position of the beam is detected in the raised and lowered positions by two limit switches that are fixed to the top plate of the barrier cabinet.

For safety reasons an isolator switch is fitted on all barriers this should be turned off before any work is carried out on the barrier.
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